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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,186	11/05/2001	Yasushi Kohno	TKA0032	5700

7590 11/08/2005  
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EXAMINER
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VALENTI, ANDREA M

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/007,186

**Applicant(s)**

KOHNO, YASUSHI

**Examiner**

Andrea M. Valenti

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Claim Objections***

Claims 1, 4, and 5 are objected to because of the following informalities:

Claim 1, section b), should be changed to the following for clarification --b) drying the plant seed in a dark place being sufficiently dark to prevent the plant seed from germinating, said drying takes place immediately after leaving the plant seed to stand in a highly watery condition at the low temperature in a dark place,--

Claims 4 and 5, section b), should be changed to the following for clarification --  
b) drying the plant seed in a dark place, before the seed becomes active, being sufficiently dark to prevent the plant seed from germinating, said drying takes place immediately after leaving the plant seed to stand in a highly watery condition at the low temperature in a dark place,--

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,107,051 to Job et al in view of U.S. Patent No. 5,294,593 to Khan.

Regarding Claims 1, 4 and 5, Job teaches a method of preventing defective germination and defective rosette formation of a plant seed which tends to suffer from defective germination and defective rosette formation during growth thereof (Job Col. 1 line 41-60 and line 51 since pre-sowing hydration treatment is an old and notoriously well-known means for improvement of germination quality, it also reduces defective germination and defective rosette formation) comprising the steps of: a) leaving the plant seed to stand in a highly watery condition at a low temperature in a dark place for sufficient period of time of from several days to several months (Job Col. 4 line 6 and Col. 10 line 64) to inhibit defective germination and/or rosette formation of the plant seed, the dark place being sufficiently dark to prevent the plant seed from germinating (Job Col. 3 line 39-44); and b) drying the plant seed immediately after leaving the plant seed to stand in the highly watery condition at the low temperature in a dark place (Job Col. 3 line 44-46, at this point applicant's sentence structure indicates that the seeds were in a highly watery condition at the low temperature in a dark place, but not that the seeds were dried in a dark place), before the seed becomes active, wherein in the step a) of leaving the plant seed in a highly watery condition the plant seed is immersed in water at a temperature of from 0-15 degrees C (Job Col. 3 line 65 and Col. 4 line 6 and line 17-30 that lower temperatures allows for a more controlled hydration) and a relative humidity of 100% (Job teaches the seeds are "soaked" in a cover dish thus the humidity is 100% Col. 3 line 46-50) and wherein in the step of drying the plant seed (Job Col. 3 line 45 and Col. 3 line 55-56 teaches they are store in the dark). However, Job does not implicitly teach that the seeds are dried in a dark place sufficiently dark to prevent

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exposure of the plant seed to an amount of light that is sufficient to cause the plant seed to germinate. Khan teaches that it is old and notoriously well-known to dry hydrated seeds in the dark to prevent germination (Khan Col. 3 line 40-49). It would have been obvious to one of ordinary skill in the art to modify the teachings of Job with the teachings of Khan at the time of the invention for the advantage of preventing germination to enable the seeds to be stored for a duration of time after treatment.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over An evaluation of the potential of low temperature pre-sowing treatments of tomato seeds as a means of improving germination performance, Ann. Appl. Biol. (1987), 110, pg. 185-195 by Coolbear et al. in view of U.S. Patent No. 5,294,593 to Khan.

Regarding Claims 1 and 4, Coolbear et al teaches a method of preventing defective germination and/or defective rosette formation of a plant seed which tends to suffer from defective germination and/or defective rosette formation during growth thereof (Coolbear Summary line 1 and Introduction line 1 since pre-sowing hydration treatment is an old and notoriously well-known means for improvement of germination quality, it reduces defective germination and defective rosette formation) comprising the steps of: a) leaving the plant seed to stand in a highly watery condition at a low temperature in a dark place for sufficient period of time of from several days to several months (Coolbear Methods, Imbibition studies, line 3) to inhibit defective germination or rosette formation of the plant seed, the dark place being sufficiently dark to prevent the plant seed from germinating (Coolbear Methods first two sentences); and b) drying the

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plant seed immediately after leaving the plant seed to stand in the highly watery condition at the low temperature in a dark place (Coolbear Methods lines 4-6), at this point applicant's sentence structure indicates that the seeds were in a highly watery condition at the low temperature in a dark place, but not that the seeds were dried in a dark place), before the seed becomes active, wherein in the step a) of leaving the plant seed in a highly watery condition the plant seed is immersed in water at a temperature of from 0-15 degrees C (Coolbear Methods second sentence) and a inherently relative humidity of 100% (Coolbear teaches the seeds are in a cover dish and are continuously kept moist thus the humidity is 100%, Methods line 2-4) and wherein in the step b) of drying the plant seed (Coolbear Methods line 5). However, Job does not implicitly teach that the seeds are dried in a dark place sufficiently dark to prevent exposure of the plant seed to an amount of light that is sufficient to cause the plant seed to germinate. Khan teaches that it is old and notoriously well-known hydrate and to dry seeds in the dark to prevent germination (Khan Col. 3 line 40-49). It would have been obvious to one of ordinary skill in the art to modify the teachings of Job with the teachings of Khan at the time of the invention for the advantage of preventing germination to enable the seeds to be stored for a duration of time after treatment.

### ***Response to Arguments***

Applicant's arguments filed 12 September 2005 have been fully considered but they are not persuasive.

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In response to applicant's argument that the prior art of record does not teach applicant's solution to defective rosette formation, However, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this instance the structure of the known methods steps of Coolbear, Job, and Kahn are not structural different then applicant's methods steps and are thus capable of performing the intended use of preventing defective rosette formation. (Claim 4 only refers to defective rosette formation in the alternative and is not a necessary limitation requirement).

The prior art clearly teaches a correlation between the priming technique and improved germination (i.e. preventing defective germination). The prior art teaches known method steps to prevent defective germination (Coolbear Introduction line 1 and Job Col. 1 line 55). If the germination quality is improved then the rosette formation quality is improved. Seeds that don't germinate correctly will have defective rosette formations or no formations at all. Thus an improvement in the quality of the germination directly increases the quality of the rosette formation to some extent. Job teaches that the method steps influence vernalization (Job col. 1 line 50-54) since the there is an appreciable savings of time to be achieved for emergence after sowing.

Examiner maintains that applicant has not patentably distinguished over the teachings of the cited prior art.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea M. Valenti whose telephone number is 571-272-6895. The examiner can normally be reached on 7:00am-5:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Andrea M. Valenti  
Patent Examiner  
Art Unit 3643

03 November 2005